

Oracle® Retail EFTLink

Rest API Guide



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The Oracle logo, consisting of a solid red square with the word "ORACLE" in white, uppercase, sans-serif font centered within it.

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Oracle Retail EFTLink Rest API Guide, Release 21.0

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Oracle Retail EFTLink Rest-API Guide, Release 21.0

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Preface

The *Oracle Retail EFTLink Rest API Guide* provides an overview and how to install EFTLink Rest API.

Audience

This Installation Guide is for the following audiences:

- System administrators and operations personnel
- Database administrators
- System analysts and programmers
- Integrators and implementation staff personnel

Related Documents

For more information, see the following documents in the Release 21.0 documentation set:

- *Oracle Retail EFTLink Release Notes*
- *Oracle Retail EFTLink Core Configuration Guide*
- *Oracle Retail EFTLink Framework Advanced Features Guide*
- *Oracle Retail EFTLink Framework Installation and Configuration Guide*
- *Oracle Retail EFTLink Security Guide*
- *Oracle Retail EFTLink Xstore Compatibility Guide*
- *Oracle Retail EFTLink Validated Partners Guide*
- *Oracle Retail EFTLink Validated OPI Partners Guide*

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- Functional and technical description of the problem (include business impact)
- Detailed step-by-step instructions to re-create
- Exact error message received
- Screen shots of each step you take

Review Patch Documentation

When you install the application for the first time, you install either a base release (for example, 21.0) or a later patch release (for example, 21.0.x). If you are installing the base release, additional patch, and bundled hot fix releases, read the documentation for all releases that have occurred since the base release before you begin installation. Documentation for patch and bundled hot fix releases can contain critical information related to the base release, as well as information about code changes since the base release.

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Conventions

The following text conventions are used in this document:

Convention	Meaning
boldface	Boldface type indicates graphical user interface elements associated with an action, or terms defined in text or the glossary.
<i>italic</i>	Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values.
monospace	Monospace type indicates commands within a paragraph, URLs, code in examples, text that appears on the screen, or text that you enter.

1

Overview

This chapter provides an overview to Rest API.

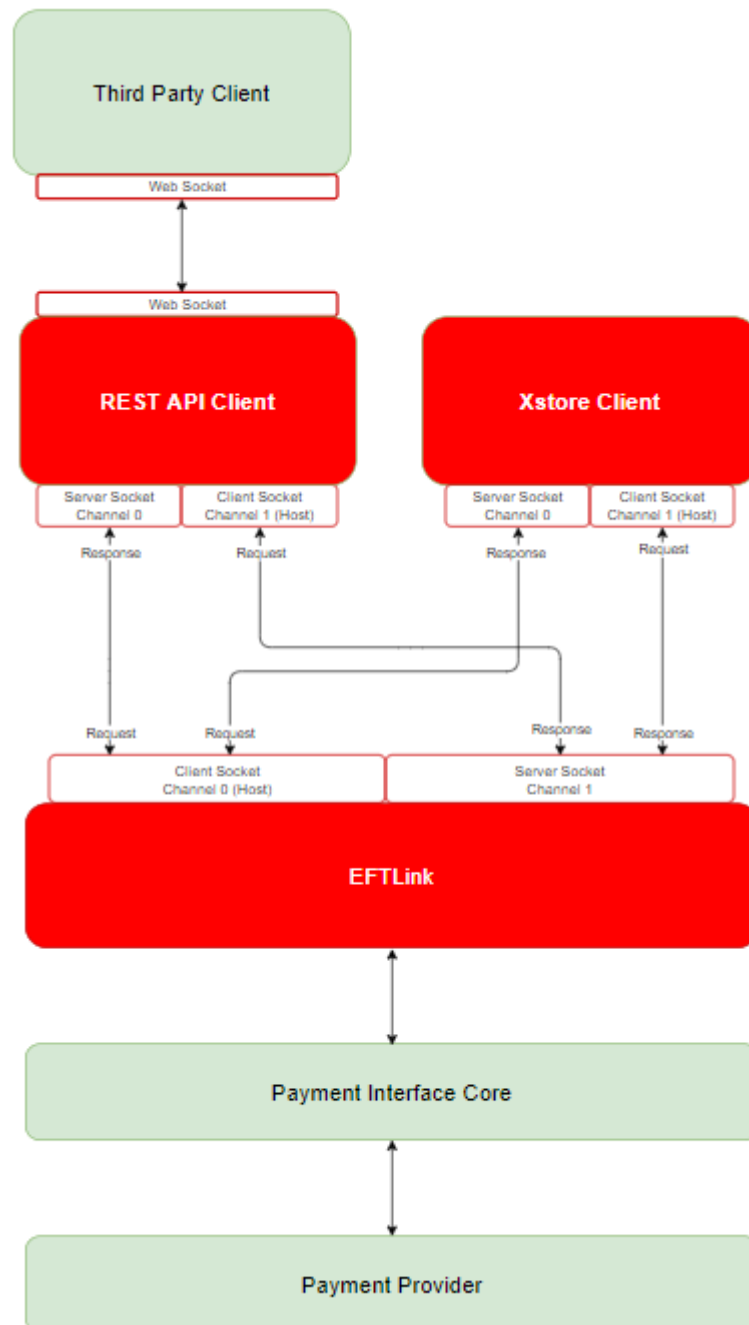
The purpose of the REST API is for mobile or web based clients that need to communicate to EFTLink.

These clients, unlike Xstore or Xstore mobile cannot reference the eftlink.jar library. Therefore, they cannot use the existing socket API that is in EFTLink.

Rest API uses the web socket protocol in order to support full duplex communication. The client is responsible of handling the device requests coming in from EFTLink while processing a payment request.

Rest API is included as part of EFTLink and can be setup to run as a service using Tanuki wrapper. This is the recommended way.

Figure 1-1 Rest API Overview



2

Installation

This chapter describes the installation of Rest API and covers the following topics:

- [Prerequisites](#)
- [Installing EFTLink Rest API](#)

Prerequisites

This section assumes you have already configured EFTLink following the instructions set out in the *Oracle Retail EFTLink Framework Installation and Configuration Guide*.

Java

EFTLink Rest API will run with any version of Java from 1.8.

The Rest API by default expects Java jre to exist in the folder location `C:\jre` (on Windows) or `/opt/jre` (on a Linux kernel). To change the default location of java you will need to update either `include-eftlink-rest-api-windows.conf` or `include-eftlink-rest-api-linux.conf` which are located in `<installation directory>\wrapper\conf`.

Installing EFTLink Rest API



Note:

All files necessary, are already in place so long as you have completed the instructions set out in the *Oracle Retail EFTLink Framework Installation and Configuration Guide*.

- [Setting up Jetty for SSL Communication](#)
- [Creating a Key Store File with Self-Signed Certificate](#)
- [Obfuscating Text using Jetty](#)
- [Installing as a Service](#)
- [Self-Signed Certificate Trust](#)

Setting up Jetty for SSL Communication

- Out of the box, the Rest API will only allow SSL communication. However, you are required to setup a key store that includes a server certificate.
- The certificate can be either a self-signed (for internal testing use only) or signed by known third party Certificate Authority (CA) vendor like Verisign.

- See [Creating a Key Store File with Self-Signed Certificate](#) details below on how to create a self-signed certificate.
- Once the eftlink-rest-api "keystore" file has been created, you will need to obfuscate the password (See [Obfuscating Text using Jetty](#) section below).
- Once you have the obfuscated password, open the `jetty.xml` file located in the root of the eftlink installation directory.
- Replace the text **ObfuscatedPasswordHere** with your obfuscated password.

For example,

```
<New id="sslContextFactory"  
class="org.eclipse.jetty.util.ssl.SslContextFactory">  
  
...  
  
<Set name="KeyStorePassword">ObfuscatedPasswordHere</Set>  
<Set name="KeyManagerPassword">ObfuscatedPasswordHere</Set>  
<Set name="TrustStorePassword">ObfuscatedPasswordHere</Set>  
  
...  
</New>
```

Creating a Key Store File with Self-Signed Certificate

1. Open a command terminal.
2. Navigate to `C:\eftlink\keys` or any other directory.
3. Execute the command below. The command will ask of your first and last name (Common Name or CN).

Enter the machine name or localhost. Populate the other details. The alias below, "restAPI_9_2020" can be anything.

The sample password below is "Password". You can use any password you desire for your key store and certificate. Just take note of them as we need to obfuscate them later.

The command will produce the key store file, `eftlink-rest-api.keystore` on the current directory.
4. The output file needs to be copied in `C:\eftlink\keys` if it's not there yet. Create the keys directory if needed.

Obfuscating Text using Jetty

1. Assuming that EFTLink is already installed at `C:\eftlink`, open a command terminal and navigate to `C:\eftlink\lib`.
2. Execute the command below. The parameter 'Password' is your desired password to obfuscate.

If Jetty is upgraded in the future, replace the filename(`jetty-util-9.4.27.v20200227.jar`) below.

```
java -cp jetty-util-9.4.27.v20200227.jar org.eclipse.jetty.util.security.Password  
Password
```

3. Sample output below. We are interested with the OBF version.

Password

```
OBF:1eam1lmn1hv41ink1uh21ugo1iku1hse1lj31e8w
```

```
MD5:2d6df80067293fb807d8adc12fa17650
```

Installing as a Service

This section describes how to install EFTLink Rest API as a service.

Windows Configuration

It is possible to install EFTLink Rest API as a windows service, using a third-party wrapper. EFTLink is distributed with a version of Tanuki Software Limited Java Service Wrapper.

Follow the steps below on how to configure EFTLink to run as a Windows service.

1. Installing the Service.
 - a. From a command line (with administrative privileges) change to the root directory for EFTLink. For example, type `cd /eftlink`.
 - b. To install EFTLink Rest API as a window service, type `eftlink-rest-api install`.

If there are problems during install, it is possible to remove the service by typing `eftlink-rest-api remove`. This may be necessary if the service is previously installed in a different folder. The service may then be reinstalled at the correct location by entering `eftlink-rest-api install`.

- c. Once installed the service can be started and stopped from a command line:

```
Eftlink-rest-api start
```

```
Eftlink-rest-api stop
```

The service can also be controlled from the Windows Services Control Panel applet (Rest API).

2. Examine the log file **Wrapper.log**.
 - a. The log file can be found in the designated EFTLink folder\log\eftlink-rest-api_wrapper.log
 - b. Installing, starting the service, stopping the service, and uninstalling the service are all briefly logged in wrapper.log, and this can be used to diagnose any problems.

Linux Configuration

It is possible to run EFTLink-rest-api as a service, using a third-party wrapper. EFTLink-rest-api is distributed with a version of Tanuki Software Limited Java Service Wrapper.



Note:

You may be required to give script file(s) execution rights. This can be accomplished by opening a terminal window and typing:

```
sudo chmod +x <PathToFile>
```

for example, `sudo chmod +x /opt/eftlink/eftlink-rest-api.sh`

Follow the steps below on how to configure EFTLink to run as a service.

1. Running EFTLink-rest-api.
 - a. From a terminal change to the directory for EFTLink.
For example, type `cd /opt/eftlink`.
 - b. To run EFTLink-rest-api as a service from a terminal type the following command `sudo./eftlink-rest-api.sh start`.
 - c. To stop, check the status or to restart EFTLink-rest-api from a terminal, type one of the following commands: `sudo./eftlink-rest-api.sh stop` `sudo./eftlink-rest-api.sh status` `sudo./eftlink-rest-api.sh restart` `sudo./eftlink-rest-api.sh condrestart`
2. Examine the log file **Wrapper.log**.
 - a. The log file can be found in the designated EFTLink folder `log\eftlink-rest-api_wrapper.log`
 - b. Starting the service and stopping the service are all briefly logged in `wrapper.log`, and this can be used to diagnose any problems.

Self-Signed Certificate Trust

To trust the self-signed certificate in your browser:

1. Open your browser (for example, Google Chrome).
2. Ensure the REST API is running.
3. Navigate to `https://localhost:8443/`.
4. The browser will warn you that your connection is not private. Click on **Advance**.
5. Click **Proceed to localhost (unsafe)**.
6. Disregard the 404 not found error.

Your browser is now ready to talk to the REST API using the `client.html` or `custom_form.html` file.